



## CHAPTER 4

# Long-Term Forecast of Washington Personal Income

**T**RENDS IN WASHINGTON PERSONAL INCOME reflect the state's economic, labor force, and population growth. For private businesses, the size and composition of personal income provide a good measure of consumer demand and market potential. For governments, personal income is an important indicator for monitoring state economic conditions, anticipating tax revenues, and assessing the level of services required.

Per capita personal income is often used to assess the economic well being of the state residents. Trends in state per capita income reflect local economic changes, poverty status, business climate, standard of living, and the state's obligation and ability to finance the means-tested entitlement programs.

## Total Personal Income Trends

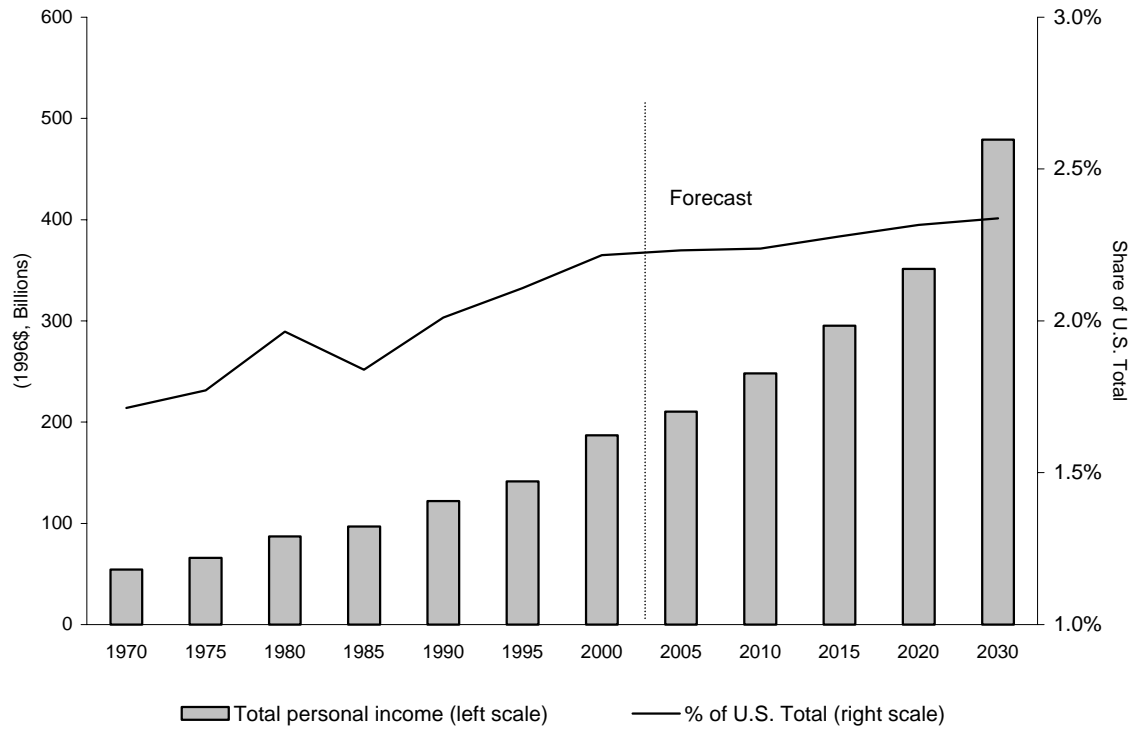
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In 2003, total personal income in Washington was \$206.2 billion. After adjusting for inflation, total state personal income in 2003 was more than three-and-a-half times the 1970 level, increasing at an average annual rate of 4.0 percent over the past three decades. Total personal income in the state, inflation-adjusted, is projected to grow an average 3.5 percent a year between 2003 and 2029, a significant slowdown from the level that the state experienced in the past. The predicted slowdown in total personal income growth reflects the expected lower increases in the state population and labor force, which more than offset the expected productivity and per capita income increases.

Washington State in 2003 accounted for 2.2 percent of total personal income in the nation, a significant increase from the 1.7 percent share in 1970. The increased share results from the fact that the state economy and population have been expanding faster than the nation as a whole. In the future economic and population growth in the state is expected to be closer to that in the nation and, by 2029, about 2.4 percent of the nation's total personal income is forecasted to be in the state (Figure 4-1).

Personal income growth fluctuates with business cycles. Long-term speaking, personal income growth in Washington closely mirrors the national trend, but with more erratic and volatile short-term movements (Figure 4-2). Excluding the cyclical peaks and troughs, the state personal income trend seems to have fluctuated within a range of two-to-four percent growth rate. In the future more stable income growth is expected due to the declining role of cyclical industries and the growing diversification of the state economy.

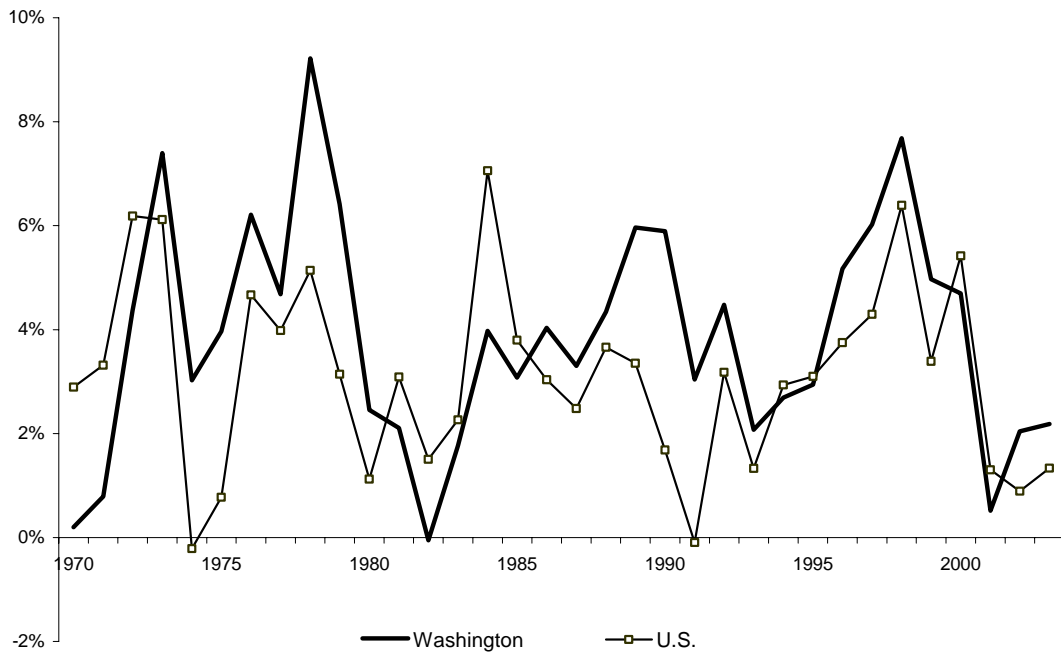
**Figure 4-1**  
**Total Real Personal Income, Washington**



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**Figure 4-2**  
**Annual Change in Total Real Personal Income**



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## Income Growth by Component

Personal income, as defined by the Bureau of Economic Analysis, has three major components: (1) earnings (wages, other labor income, and proprietor's income); (2) dividends, interest, and rent; and (3) government transfer payments. In 2003, earnings accounted for 66 percent of total personal income in Washington; and dividends/interest/rent and transfer payments represented 19 and 15 percent of total personal income, respectively. These three income components have been growing at varying rates over the past three decades (Table 4-1).

- **Earnings.** Washington real total earnings (in 2000 constant dollars) tripled from 54.3 billion in 1970 to 123.3 billion in 2003. The average annual growth rate of earnings was 3.8 percent, slightly lower than the 4.1 percent rate for total personal income growth. Earnings growth is subject to cyclical factors; the annual rate of real earning growth in the state dipped to as low as -3.1 percent during the 1969-70 period, and rose to a high of 10.0 percent in 1977-78.

In the first half of the 1990s, growth in total earnings in Washington significantly slowed. The 1.9 percent annual increase in 1992-95 was the lowest earnings growth the state has experienced since the 1982-83 recession period; cutbacks in the aerospace industry were the major culprit for the mediocre performance. The earnings growth then rebounded strongly to 7.1 percent per year in the 1995-99 period, but then slowed to 3.4 percent in 2000. The estimated total earnings declined 1.3 percent over the next two years between 2000 and 2002 as the recession hit, and then rose 2.5 percent during 2002-03.

**Table 4-1**  
**Real Income Growth by Component: Washington**

Income Components	Average Annual Growth Rate (%)						1970-2003
	1970-75	1975-80	1980-85	1985-90	1990-95	1995-03	
Total Personal Income	3.9	5.8	2.2	4.7	3.0	4.7	4.1
Earnings	3.4	5.7	0.7	4.6	3.1	4.7	3.8
Dividends, Interest, and Rent	3.6	9.1	6.2	4.6	1.9	4.0	4.8
Transfer Payments	8.1	3.3	4.8	3.9	6.0	5.6	5.3

Earnings growth has also varied significantly among industries (Table 4-2). Total farm earnings in real terms has been flat since 1970, and its share of total earnings in the state declined from 3.2 percent in 1970 to 0.8 percent in 2001. Real earnings from manufacturing increased 93 percent, but its share of total earnings in the state declined slightly from 23 percent in 1970 to 20 percent in 1990, and to 14 percent in 2001.

Despite substantial job gains, retail and wholesale trade has shown only modest growth in earnings. Actually, retail and wholesale trade earnings as a share of total earnings declined from 17 percent in 1970 to 15 percent in 2001 -- a result of these sectors' slow wage growth. Real earnings from services industry rose nearly seven folds over the 1970-2001 period, increasing at an annual rate of 6.5 percent -- far above the 3.8 percent growth rate for total earnings. Services cover a wide range of sectors and occupations. Earnings in services

started accelerating in the second half of the 1980s, as more growth took place in the high-paying service sectors such as business, health, and management and consulting services. In the second half of the 1990s, the strong economy, accompanied with soaring stock option earnings, raised the services industry's earnings growth to a 10 percent annual rate.

**Table 4-2**  
**Growth in Real Earnings by Industry: Washington**

	Average Annual Growth Rate (%)						
	1970-75	1975-80	1980-85	1985-90	1990-95	1995-01	1970-2001
Total Earnings	3.4	5.5	0.9	5.0	2.9	5.0	3.8
Farm	13.4	-7.9	-8.2	3.6	0.7	-3.9	-0.8
Manufacturing	1.7	7.0	-1.1	4.6	-1.0	1.9	2.1
Wholesale & Retail	3.6	4.7	1.2	3.6	2.8	4.0	3.3
Services*	3.4	7.5	2.6	6.9	5.5	7.5	5.6

\*Services include transportation, communication, utilities (TCU); and finance, insurance, and real estate (FIRE).

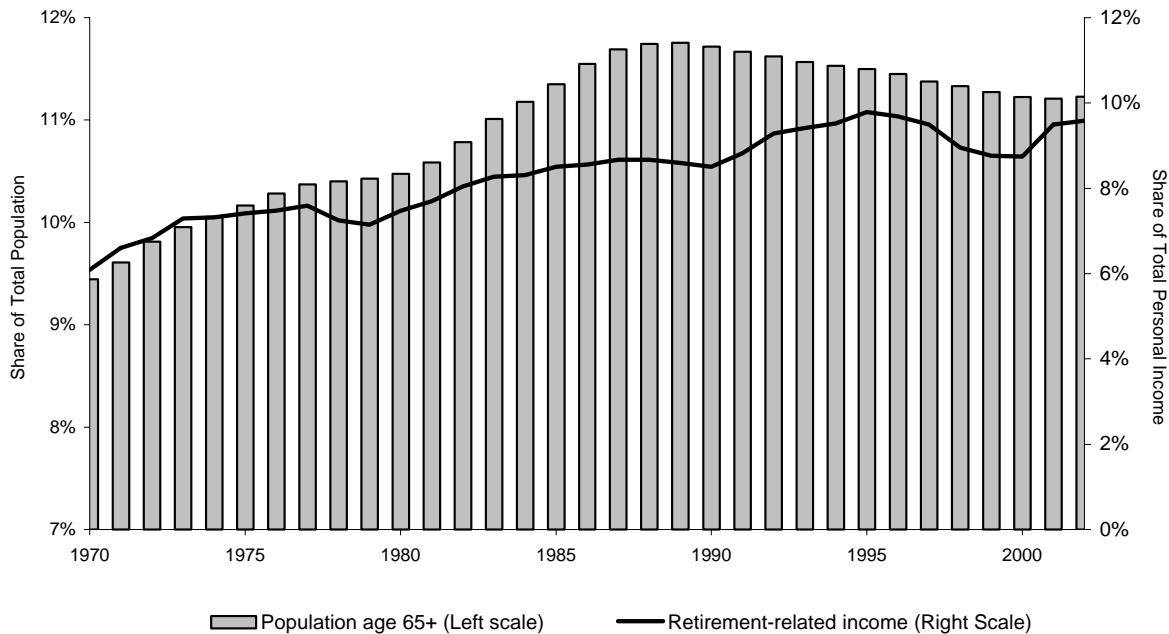
- **Dividends, interest, and rent.** The proportion of total personal income derived from property- and saving-related income sources increased steadily from 14.3 percent in 1970 to 17.9 percent in 2003. The share of income from these sources increased in the 1980s due in part to high interest rates early in the decade, and soaring property value in the second half of the decade. Between 1990 and 1995, real income from dividends, interest, and rent grew at an annual rate of 1.9 percent in the state, far lower than the long-term average of 4.8 percent. From 1995 to 2003, the growth rebounded to an annual rate of 4.0 percent.

In the short term, income from dividends, interest, and rent is affected mainly by the monetary policies and cyclical conditions. Over the long run, it reflects the state residents' past earnings and savings behavior. The future growth of this component of personal income thus depends on the state's success in retaining and attracting households with the ability and propensity to save and invest.

- **Transfer payments.** Transfer payments as a source of personal income has become more and more important in the past three decades, increasing at an annual rate of 5.3 percent, significantly higher than the 4.1 percent annual growth for total personal income. The growth of transfer payments reflects the impact of the government policies dealing with social security, welfare, unemployment, and farm subsidies.

Retirement and disability insurance benefits and Medicare payments account for a large portion of the total transfer payments. The level of transfer payments is affected by the state's demographic profile (Figure 4-3) and relevant state and federal regulations. Aging of the population in the next few decades should contribute to the growth of this component of personal income.

Figure 4-3  
**Elderly Population and Retirement-Related Payments\***



\* Includes government retirement and disability insurance benefit payments, and Medicare payments to individuals.

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A significant portion of transfer payments is counter-cyclical in nature. In Washington, income derived from income maintenance and unemployment insurance benefit payments accounted for as high as 28.2 percent of total transfer payments during the cyclical trough in 1971, and as low as 12.5 percent in 1989 when the state economy peaked in the business cycle. In the 1990s, the share rose to 17.5 percent in 1993, then declined steadily to 12.4 percent in 2000, when the state economy reached its last cyclical peak. The share then rose again to 17.2 percent in 2002.

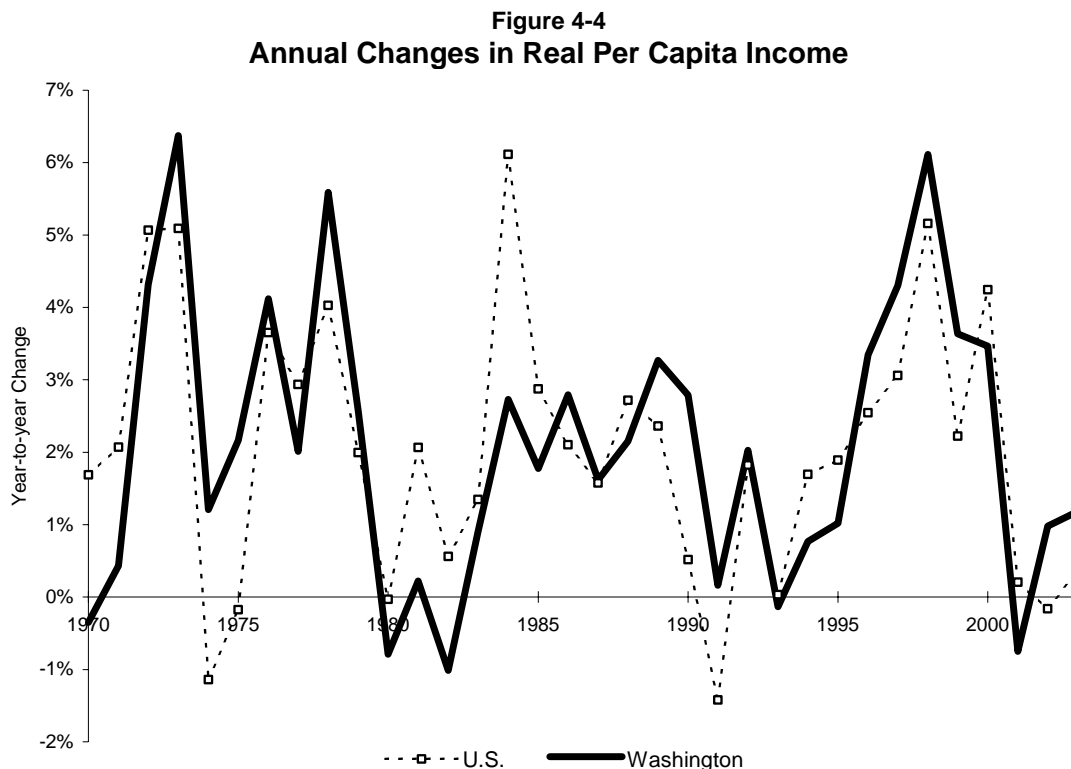
## Per Capita Income Trends

Real per capita income is derived by dividing state total personal income by total population, then adjusted for inflation using the Implicit Price Deflator (IPD) for personal consumption from the National Income and Product Account (2000 = 1.0).

In 2003, real per capita personal income for the state was estimated at \$31,984, about 7 percent above the national average of \$29,929. The state real per capita income in 2003 doubled its level in 1970.

Between 1970 and 2003, Washington State real per capita personal income grew at an average annual rate of 2.1 percent, roughly the same as the average growth of 2.0 percent for the nation as a whole. The growth did not follow a smooth path, but fluctuated along with the prevailing state economic conditions. During most of the expansionary periods, the state per capita personal income rose faster than the U.S. average. Conversely, per capita income growth in the

state usually plummeted below the national trend during recessions or periods of slow economic growth (Figure 4-4).



In the past, growth in the state's aerospace industry, along with the industry's high wages and salaries, played a major role in the growth of Washington personal income. This was evident during the 1965-70 period when real per capita income in the state increased nearly 4.5 percent per year. On the other hand, the 1980-82 national recessions were particularly hard on the Washington economy. The state economy was hit severely, resulting in a decline in real per capita income.

Since the late-1970s, growth in real per capita personal income has slowed, both in the state and the nation. The slowdown was more severe in the state than in the nation through most of the 1980s. However, since 1988 the state has gained some ground relative to the nation in per capita income growth.

Nationally, the most commonly cited reason for sluggish per capita income growth is the slowdown in productivity growth. This factor certainly also played a significant role in the earnings and income changes in the state. Besides, the state economy suffered from the collapse of non-oil commodity prices during the 1970s and the early 1980s that hurt its resource-based industries. Other contributing factors include appreciation of the dollar in relation to foreign currencies in the first half of the 1980s that hurt sales and employment in the state's export industries; the rise in real interest rates in the 1980s lowered demand for some Washington's durable goods products; sudden termination of the Washington Public Power Supply System construction project and loss of shipbuilding jobs in the early 1980s exerted large negative

effects on the state earnings and personal income. By 1985, the state per capita income dropped below the national average.

In the second half of the 1980s, Washington experienced substantial job gains in aerospace and high-tech manufacturing industries, along with a significant growth in the evolving high-wage “knowledge-based” service sectors. In addition, Washington’s export industries were aided by a decline in the value of dollar relative to other currencies. As a result, real per capita income grew faster in the state than in the nation. By 1990, per capita income in the state rose to a level 2.3 percent above the national average.

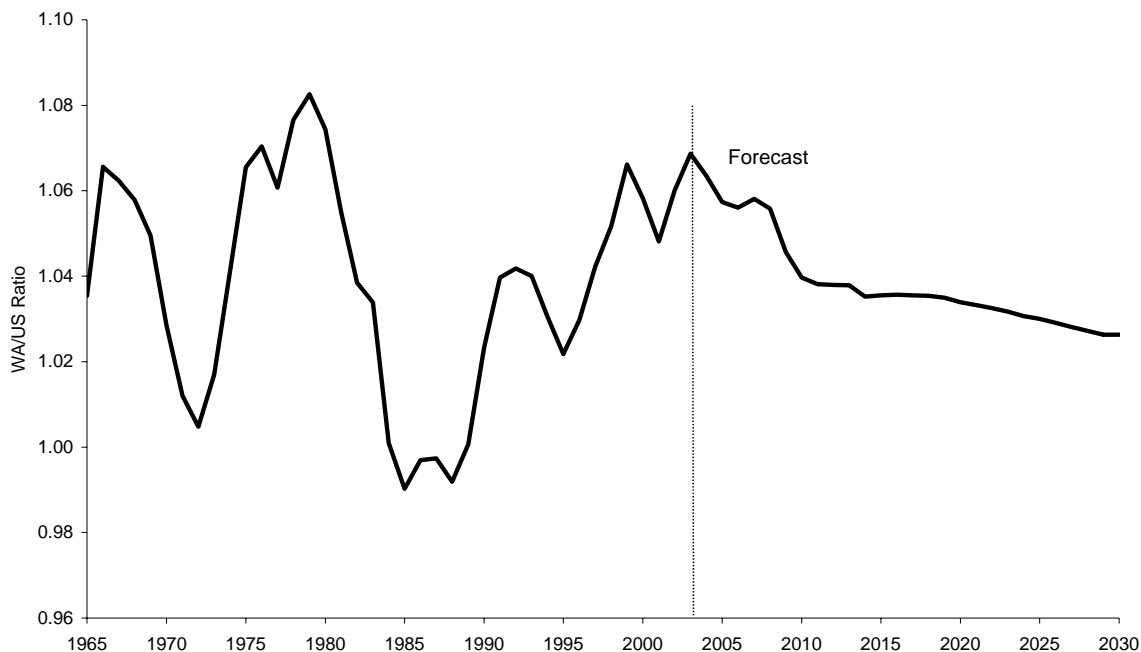
The state’s economy was at full strength in 1990 when the U.S. economy was entering into a recession. In 1991, the aerospace sector started cutting back production to accommodate a shrinking commercial aircraft market. The negative income effect of the aerospace reduction offset to a large extent the income growth brought about by other prospering sectors (e.g., machinery manufacturing and business services) in the state. Real per capita income growth in Washington thus slowed down in the early 1990s, but the nation as a whole suffered an even greater drop in income growth.

Between 1992 and 1995, the Washington economy stalled due to on-going job reductions in aerospace, while at the same time the national economic recovery picked up pace. Per capita income growth in the state dropped below the national average during this period.

Economic growth in the state started accelerating in 1995. Strong national economic growth raised the demand for goods produced in the state. Job growth in Washington had been broad-based, covering many manufacturing and non-manufacturing sectors of the economy. By 2000, the state unemployment rate dipped to 5.2 percent, far below the average of 7.6 percent in the past three decades; and the employment-to-population ratio rose to a historic high. All of these had contributed to a big jump in per capita income growth. But the recession hit in early 2001 and real per capita income in the state dipped 0.8 percent from the previous year.

Over the long run, per capita income in Washington has trended closely with the national average. State per capita income averaged about 3 percent above the national level over the past three decades. However, the volatility of certain manufacturing and resource-based industries in the state periodically narrowed or widened the per capita income gap between Washington and the nation. In 1999, the state per capita income was 6.6 percent above the national average, a record high since the late 1970s (Figure 4-5). The gap narrowed somewhat to 6.0 percent in 2002.

Figure 4-5  
Ratio of Washington-to-U.S. Per Capita Income



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## Outlook for Personal Income Growth in Washington

In the next 25 years, the Washington economy is expected to continue its diversification, with an industrial profile moving close to that of the nation. This development means that the state will likely experience more stable economic growth, thus less volatility in its personal income trends. But this also suggests that the states per capita income level is likely to converge to the national average in the future.

Long-term projections of state personal income suggest that Washington per capita personal income level will converge to but remain above the national average over the forecast horizon. Several factors contribute to the comparative strength of Washington's per capita income outlook:

- In the next two and a half decades, worldwide aircraft demand is expected to remain healthy. However, the trend of increasing out-sourcing of aerospace production in the state will sustain.
- Washington will maintain a relatively healthy manufacturing base. For example, agriculture and food products in the state will continue to benefit from the improving access to worldwide food markets; and many of these markets are in fast-growing developing countries.



- The state's high wage durable goods and high-technology industries will benefit from the expected macroeconomic trends toward lower and more stable real interest rates, accompanied by increasing international demand for capital goods.
- A more integrated global economy will help expand state exports and stimulate export-related business activities. In addition, Washington has the geographic advantage that endows it with great potential to attract foreign investments.
- Recent business expansion and investment activities in the state suggest that the state has had the critical mass to continue attracting a variety of high-tech manufacturing and knowledge-based business service industries. The high wage jobs offered by these industries will help raise per capita income level.

The OFM per capita income projection model incorporates the above factors in its forecasting of per capita income growth in Washington.

### **Per Capita Income Growth Forecast**

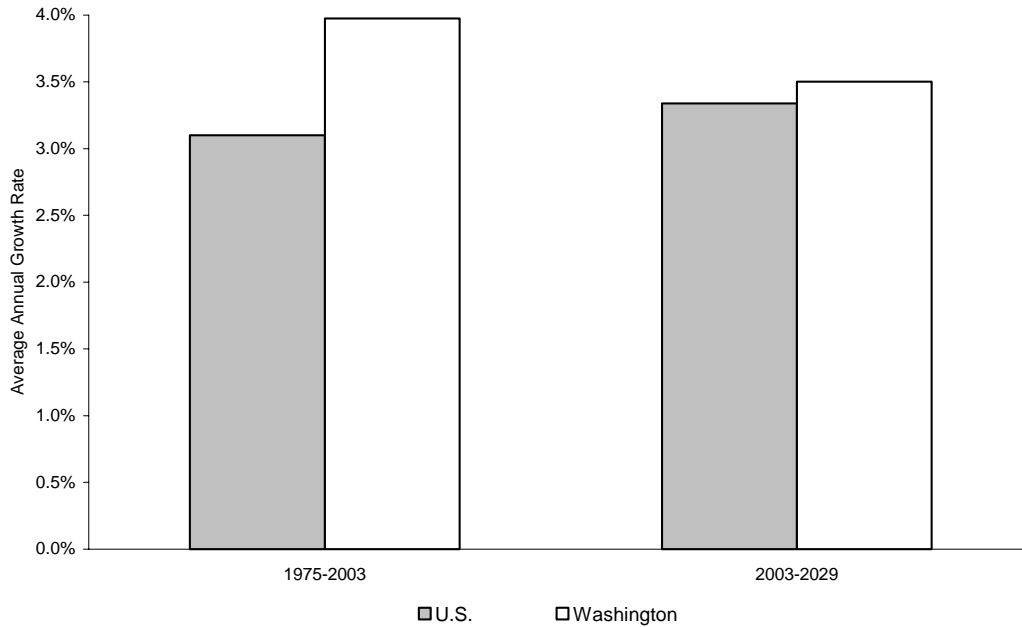
Between 1970 and 2003, real per capita income in the state grew at an average 2.1 percent per year. In the next 25 years, the growth will be somewhat higher at an annual pace of 2.3 percent (Figure 4-6). The projected growth rate is based on the anticipation of a healthy productivity growth trend, and on favorable future industrial mixes in the state. The expected decline in labor force growth and lowering of the employment-to-population ratio, both resulting from an aging population, will exert negative, offsetting effects on per capita income growth in Washington. The same trends will prevail nationally.

Table 4-3 shows the long-term personal income forecasts for Washington and the U.S.

**Table 4-3**  
**Personal Income Trends: Washington and U.S.**

Year	Total Real Personal Income (2000 Dollars)				Per Capita Income (2000 Dollars)			
	Washington (Billions)	Annual Change (%)	U.S. (Billions)	Annual Change (%)	Washington	Annual Change (%)	U.S.	Annual Change (%)
1970	54.34	0.2	3,171.13	2.9	15,880	-0.3	15,440	1.7
1975	65.75	4.0	3,712.36	0.8	18,299	2.2	17,173	-0.2
1980	87.05	2.5	4,430.79	1.1	20,881	-0.8	19,436	0.0
1981	88.88	2.1	4,567.65	3.1	20,928	0.2	19,838	2.1
1982	88.83	-0.1	4,636.28	1.5	20,716	-1.0	19,949	0.6
1983	90.40	1.8	4,741.30	2.3	20,902	0.9	20,218	1.3
1984	93.99	4.0	5,075.89	7.1	21,473	2.7	21,454	6.1
1985	96.88	3.1	5,268.51	3.8	21,854	1.8	22,070	2.9
1986	100.79	4.0	5,428.47	3.0	22,465	2.8	22,534	2.1
1987	104.12	3.3	5,563.25	2.5	22,828	1.6	22,888	1.6
1988	108.64	4.3	5,766.73	3.7	23,319	2.2	23,510	2.7
1989	115.12	6.0	5,960.15	3.4	24,082	3.3	24,065	2.4
1990	121.90	5.9	6,060.54	1.7	24,753	2.8	24,189	0.5
1991	125.61	3.0	6,054.72	-0.1	24,793	0.2	23,846	-1.4
1996	131.23	4.5	6,247.14	3.2	25,295	2.0	24,280	1.8
1993	133.96	2.1	6,330.22	1.3	25,261	-0.1	24,288	0.0
1994	137.57	2.7	6,516.18	2.9	25,455	0.8	24,700	1.7
1995	141.61	2.9	6,717.99	3.1	25,715	1.0	25,167	1.9
1996	148.93	5.2	6,969.95	3.8	26,576	3.3	25,808	2.5
1997	157.90	6.0	7,269.29	4.3	27,719	4.3	26,598	3.1
1998	170.03	7.7	7,733.70	6.4	29,414	6.1	27,969	5.2
1999	178.48	5.0	7,995.86	3.4	30,484	3.6	28,591	2.2
2000	186.85	4.7	8,429.32	5.4	31,540	3.5	29,805	4.2
2001	187.82	0.5	8,538.97	1.3	31,304	-0.8	29,866	0.2
2002	191.65	2.0	8,614.81	0.9	31,610	1.0	29,817	-0.2
2003	195.83	2.2	8,729.53	1.3	31,984	1.2	29,929	0.4
<b>Forecast</b>								
2005	210.34		9,420.69		33,565		31,745	
2010	247.97		11,078.91		37,242		35,822	
2015	295.15		12,955.18		41,653		40,224	
2020	351.30		15,165.20		46,789		45,253	
2029	479.07		20,496.47		58,559		57,057	
<b>Average Annual Growth Rate (%)</b>								
2000-2005		2.4		2.2		1.3		1.3
2005-2010		3.3		3.3		2.1		2.4
2010-2015		3.5		3.2		2.3		2.3
2015-2020		3.5		3.2		2.4		2.4
2020-2029		3.5		3.4		2.5		2.6
1970-2000		4.2		3.3		2.3		2.2
2000-2029		3.3		3.1		2.3		2.4

**Figure 4-6**  
**Growth of Real Total Personal Income**



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By 2029, real per capita income in Washington will rise to \$58,600, about 83 percent above the 2003 level.

Combining per capita income increase with population growth, total state personal income is expected to more than double over the next 25 years, from \$196 billion in 2003 to \$479 billion in 2029 (2000 constant dollars). This represents an average annual growth rate of 3.5 percent during the forecast period, higher than the 3.3 percent rate projected for the nation. As a result, Washington's share of total national personal income increases from 2.2 percent in 2003 to 2.3 percent in 2029.

